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Backward extrusion process for inner profiles

Claims

1. A process of producing an inner profile (18) in a tube or hollow profile (11) with the following characteristics:
inserting the tube or hollow profile (11) into a supporting sleeve (12), with a first tube end (19) being axially supported;
placing a pressure-loaded annular die (16) on to the other tube end (20);
pressing a forming die (15) with an outer profile into the tube or hollow profile (11) from the latter tube end (20) for producing the inner profile (18);
allowing a return of the annular die (16) under a pressure load in the opposite direction of that of pressing in the forming die (15).
2. A process according to claim 1,

characterised in

that the pressure load on the annular die (16) is reduced with an increasing return path.
3. A process according to claim 2,

characterised in

that the pressure load on the annular die (16) is reduced in such a way that the sum of an integrated wall friction

between the tube or hollow profile (11) and the supporting sleeve (12) in the region of deformation on the one hand and the pressure load on the annular die (16) on the other hand remains approximately constant.

4. A process according to any one of claims 1 to 3,

characterised in

that the inner profile (18) is a splined shaft profile.

5. A process according to any one of claims 1 to 3,

characterised in

that the inner profile (18) is a ball track profile.